

U.S. SERIAL NO.: 08/781,296
FILED: January 13, 1997
RESPONSE UNDER 35 C.F.R. 1.116

In the Claims

1. (Twice amended) An immunogenic composition for alleviating or preventing symptoms of autoimmune disorders induced by infection with Epstein-Barr virus comprising a modified Epstein-Barr virus or a modified component thereof, wherein one or more structures of the Epstein-Barr virus are removed or altered to decrease the potential that the [vaccine] composition will induce an autoimmune disorder, in a pharmaceutically acceptable carrier for administration of the virus or viral component in an amount and mode of administration effective to alleviate or prevent symptoms associated with the autoimmune disorders.

4. (Twice amended) The composition of claim 1 wherein the Epstein-Barr virus comprises the nuclear antigen 1 protein not including a peptide sequence selected from the group consisting of PPPGRRP (SEQ ID NO: 1), GRGRGRGG (SEQ ID NO: 2), and RGRGREK (SEQ ID NO: 3).

11. (Twice amended) A method for preventing or alleviating autoimmune disorders induced by infection with Epstein-Barr virus comprising administering to an individual [at risk of developing or who has been identified as having symptoms associated with an autoimmune disorder induced by infection with Epstein-Barr virus,]
a composition comprising a killed or attenuated Epstein-Barr virus or a component thereof, or modifications thereof wherein one or more structures of the Epstein-Barr virus are

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removed or altered to decrease the potential that the [vaccine] composition will induce an autoimmune disorder, in a pharmaceutically acceptable carrier for administration of the virus or viral component in an amount and mode of administration effective to alleviate or prevent the autoimmune disorders.

E3
W 16. (Amended) The method of claim 11 wherein the [vaccine] composition is administered prior to infection with Epstein-Barr virus. H

E5 17. (Amended) The method of claim 11 wherein the [vaccine] composition is administered to an individual who has or has previously had an infection with Epstein-Barr virus. H

E6
F2 27 (New) An immunogenic composition comprising a molecule selected from the group consisting of PPPGRRP (SEQ ID NO:1), GRGRGRGG (SEQ ID NO:2), RGRGREK (SEQ ID NO:3), GAGAGAGAGAGAGAGAGAGAGA (SEQ ID NO:7), GPQRRGGDNHGRGRGRGRGRGGGRRPG (SEQ ID NO:13), GGSGSGPRHRDGVRRPQKRP (SEQ ID NO:14), RPQKRPS (SEQ ID NO:15), QKRPSICGCKGTHGGTG (SEQ ID NO:16), GTGAGAGARGRG (SEQ ID NO:17), SGGRG (SEQ ID NO:18), RGGSGGRRGRGR (SEQ ID NO:19), RARGRGGRGEKRPRS (SEQ ID NO:20), SSSSGSPRRPPPGR (SEQ ID NO:21), RPPPGRRPFFHPVGEADYFEYHQEG (SEQ ID NO:22), PDVPPGAI (SEQ ID NO:23), PGAIEQGPA (SEQ ID NO:24), GPSTGPRG (SEQ ID NO:25), GQGDGGRRK (SEQ ID NO:26), DGGRRKKGGWFGKHR (SEQ ID NO:27), CKHRGQGGSN (SEQ ID NO:28), GQGGSNPK (SEQ ID NO:29), NPKFENIA (SEQ ID NO:30), RSHVERTT (SEQ ID NO:31), VFVYGGSKT (SEQ ID NO:32), GSKTSLYNL (SEQ ID NO:33), GMAPGPGP (SEQ ID

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NO:34), PQGPLRE (SEQ ID NO:35), CNIRVTVC (SEQ ID NO:36), RVTVCSFDDG (SEQ ID NO:37), and PPWFPPMVEG (SEQ ID NO:38), wherein the composition is in a pharmaceutically acceptable carrier for administration of the composition in an amount and mode of administration effective to induce tolerance to EBV-associated immune responses.

28 (New) A method comprising administering to a individual a composition comprising a molecule selected from the group consisting of PPPGRRP (SEQ ID NO:1), GRGRGRGG (SEQ ID NO:2), RGRGREK (SEQ ID NO:3), GAGAGAGAGAGAGAGAGAGAGA (SEQ ID NO:7), GPQRRGGDNHGRGRGRGRGGGRPG (SEQ ID NO:13), GSGSGPRHRDGVRRPQKRP (SEQ ID NO:14), RPQKRPS (SEQ ID NO:15), QKRPSIGCKGTHGGTG (SEQ ID NO:16), GTGAGAGARGRGG (SEQ ID NO:17), SGGRGRGG (SEQ ID NO:18), RGGSGGRRGRGR (SEQ ID NO:19), RARGRGRGRGEKRPRS (SEQ ID NO:20), SSSSGSPRRPPPGR (SEQ ID NO:21), RPPPGRRPFFHPVGEADYFEYHQEG (SEQ ID NO:22), PDVPPGAI (SEQ ID NO:23), PGAIEQGPA (SEQ ID NO:24), GPSTGPRG (SEQ ID NO:25), GQGDGGRRK (SEQ ID NO:26), DGGRKKGGWFGKHR (SEQ ID NO:27), GKHRGQGGSN (SEQ ID NO:28), GQGGSNPK (SEQ ID NO:29), NPKFENIA (SEQ ID NO:30), RSHVERTT (SEQ ID NO:31), VFVYGGSKT (SEQ ID NO:32), GSKTSLYNL (SEQ ID NO:33), GMAPGPGP (SEQ ID NO:34), PQGPLRE (SEQ ID NO:35), CNIRVTVC (SEQ ID NO:36), RVTVCSFDDG (SEQ ID NO:37), and PPWFPPMVEG (SEQ ID NO:38), wherein the composition is in a